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PATENT
Docket No. STL920000102US1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Alan R. Smith, et al.)	
Serial No.:	09/778,236)	
Filed:	February 6, 2001)	
For:	METHOD, COMPUTER PROGRAM PRODUCT, AND SYSTEM FOR CREATING FORM INDEPENDENT APPLICATIONS OPERATIVE ON IMS RESOURCES)	Group Art
)	Unit: 2127
Examiner:	Tang, Kenneth)	

REPLY BRIEF

Mail Stop Appeal Brief-Patents
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Dear Examiner:

The USPTO received Appellant's Appeal Brief on May 16, 2005, which was filed in response to the Final Office Action mailed December 15, 2004, and the Advisory Action mailed March 1, 2005. In view of the Appeal Brief, prosecution was reopened with new grounds of rejections set forth in the Office Action mailed September 14, 2005. Appellant notes that Examiner Tang has acknowledged in a telephone call help November 14, 2005 that the Office Action mailed September 14, 2005 improperly designated the Office Action as a Final Office Action even though new grounds of rejection have been cited. Based on instructions in that

telephone conference, the action mailed September 14, 2005 will be treated as a non-final rejection. Appellant requests that the appeal be maintained and submits this reply brief to overcome the rejection of and objections to pending claims 1-48.

This Reply Brief is being filed under the provisions of 37 C.F.R. § 41.39(b)(2). The Commissioner is hereby authorized to charge payment of any additional fees associated with this communication, or to credit any overpayment, to Deposit Account No. 09-0460.

1. REAL PARTY IN INTEREST

The real party in interest is the assignee, International Business Machines Corporation, Armonk, New York.

2. RELATED APPEALS AND INTERFERENCES

There are no related appeals, interferences, or judicial proceedings.

3. STATUS OF CLAIMS

The Office Action mailed on September 14, 2005 reopened prosecution. Therefore, all previous rejections and objections to the claims addressed in the last appeal brief are considered to have been withdrawn.

The Final Office Action mailed on September 14, 2005 rejected Claims 1-16, 19-35, 38-45, and 48 and objected to Claims 16-18, 35-37, and 45-47. Claims 1-2, 6-7, 11, 14-15, 19-21, 25-26, 30, 33-34, 38-40, 43-44, and 48 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,761,667 to Koeppen (hereinafter “Koeppen”) in view of U.S. Patent No. 5,745,748 to Ahmad et al. (hereinafter “Ahmad”). Claims 3-5 and 22-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Koeppen in view of Ahmad and further in view of U.S. Patent No. 5,991,761 to Mahoney et al (hereinafter “Mahoney”). Claims 8-10, 13, 27-29, 32, and 41-42 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Koeppen in view of Ahmad and further in view of U.S. Patent No. 5,155,678 to Fukumoto et al (hereinafter “Fukumoto”). Claims 12 and 31 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Koeppen in view of Ahmad and further in view of Applicant’s Admitted Prior Art in the Specification (hereinafter “AAP”). Claims 16-18, 35-37, and 45-47 were objected to,

but found allowable if rewritten in independent form including the limitations of the base claim and any intervening claims.

Applicant maintains the appeal of the Office Action's rejection of Claims 1-16, 19-35, 38-45, and 48 and the objection to claims 16-18, 35-37, and 45-47.

4. STATUS OF AMENDMENTS

There are no amendments pending in this case.

5. SUMMARY OF CLAIMED SUBJECT MATTER

The claimed subject matter deals with the performing of application programming tasks without previously provided information regarding a Program Specification Block (PSB) or a Program Control Block (PCB). See Spec. page 1, lines 11-15. Specifically, the claimed invention operates within an Information Management System (IMS) environment available from International Business Machines (IBM). See Spec. page 1, lines 7-9.

The problem is that utility programs, designed to operate in various IMS environments, are unaware of site-specific IMS data structures, also known as constructs. See Spec. page 2, lines 19-21. Without information about specific constructs, the utility programs fail to operate with the data properly. See Spec. page 2, lines 3-5. The conventional solution is to generate constructs tailored to the utility program using a tool such as PSBGEN. See Spec. page 5, lines 6-11. Alternatively, IMS owners may alter the constructs to obtain compatibility with the utility programs. See Spec. page 3, lines 9-10. Making such changes can be costly, time consuming, error prone, and slow as IMS administrators may have to be consulted to alter the constructs. See Spec. page 3, lines 10-20. Administrators may make formatting changes to Program Communication Block (PCB) and Program Specification Block (PSB) constructs for compatibility with the utility programs. See Spec. page 4, lines 3-11.

Embodiments of the present invention include methods, a system, and article of manufacture for performing an application program operation on at least one Information

Management System resource.¹ See e.g. Claims 1, 19, 20, and 38. The method of Claim 1 includes locating an actual Program Communication Block (PCB) associated with an IMS resource without knowledge of an IMS construct form and utilizing the actual PCB to perform form independent program operations on the IMS resource. See Figs. 9-11. The present invention dynamically locates actual PCBs to use to perform the program operations without altering PCBs or generating new PCBs. See specification page 18, lines 1-3, page 6, lines 7-10.

Regarding Claim 14, flow diagrams 650, 750, and 805 illustrate how actual PCBs may be dynamically located by referencing a parameter list 330. See Figs. 9-11. Figures 4-6 illustrate data structures that may be referenced to find the actual PCBs. See specification page 11, lines 12-13. The present invention references an existing (also referred to as actual) PCB to obtain information such as addresses and database identifiers needed for the application program to interact with various parts of the IMS environment. See specification page 15, lines 25-17, page 16, lines 9-11.

Figures 10-11 illustrate how the actual PCB is used depending on certain characteristics of the actual PCB, such as whether the PCB is an I/O PCB or a database PCB. See specification page 15, lines 2-5. Information such as database names may be provided to facilitate dynamic determination and use of the PCBs. See specification page 16, lines 9-11.

Claims 19, 20, and 38 include substantially the same subject matter as that described above in relation to Claim 1. Regarding the method of Claim 19, regarding ensuring existence of IMS constructs, Figures 10-11 describe steps for determining the existence of PCBs or PSBs. See specification page 15, lines 2-5.

The system of Claim 20 includes a computer, computer program first instructions and computer program second instructions. The computer program first instructions implement locating an actual Program Communication Block (PCB). The computer program second instructions implement utilizing the actual PCB to perform form independent program operations

¹ Although Appellant has summarized embodiments of the present invention, the present invention is defined by the claims themselves. Appellant's summary is not intended to limit the scope of the claims or individual claim elements in complying with the appeal brief requirements under 37 C.F.R. § 41.37(c)(v).

on the IMS resource. Regarding Claim 38, these computer program instructions may be embodied within an article of manufacture.

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

I. Whether the Examiner failed to establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a) for Claims 1-16, 19-35, 38-45, and 48 where the cited references do not teach or suggest every element of Claims 1-16, 19-35, 38-45, and 48 either alone or in combination.

7. ARGUMENT

I. The Examiner failed to establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a) for Claims 1-15, 17-34, 38-44, and 48 because the cited references do not teach or suggest every element of Claims 1-15, 19-35, 38-45, and 48 either alone or in combination.

INDEPENDENT CLAIMS 1, 19, 20, and 38

A. Independent Claims 1, 19, 20, and 38

Appellant respectfully submits that independent Claim 1 is representative of the patentable subject matter of Claims 19, 20, and 38. Appellant further submits that Claim 1 is non-obvious in view of Koeppen and Ahmad. Claim 1 states:

A method for performing on a computer system one or more form independent application program operations on at least one Information Management System (IMS) resource comprising:
(a) locating an actual Program Communication Block (PCB) associated with said at least one IMS resource exclusive of predetermined knowledge pertaining to an IMS construct form, and
(b) utilizing said actual PCB to perform said one or more form independent application program operations on said at least one IMS resource.

B. The Rejection under 35 U.S.C. § 103(a)

The Office Action mailed September 14, 2005 in response to the Appeal Brief received by the USPTO May 16, 2005 reopened prosecution and set forth new grounds of rejections. The Office Action states:

(a) at least one Information Management System resource (IMS database) **exclusive of predetermined knowledge pertaining to an IMS construct form** (data structure)...and (b) **locating/utilizing** and performing said one or more application program operations on said at least one IMS resource (unloading and loading an IMS database).

See Office Action, 9/14/2005, p. 3 (emphasis added).

C. Withdrawal of the Rejection under 35 U.S.C. § 103(a)

Appellant asserts that the Examiner used improper hindsight reconstruction analysis to examine Claim 1.

“[I]t is impermissible to use the claimed invention as an instruction manual or ‘template’ to piece together the teachings of the prior art so that the claimed invention is rendered obvious. . . . This court has previously stated that ‘[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.’” In re Fritch, 23 U.S.P.Q.2d 1780, 1784 (Fed. Cir. 1992).

The citation above is indicative of the Examiner’s reading and interpretation of the language of Claim 1. See Office Action, 9/14/2005 , p. 3. Appellant submits that the Examiner has failed to properly read and interpret Claim 1. The Examiner’s analysis merges the steps of locating an actual PCB and utilizing said actual PCB together as though the Appellant intended these steps to be interchangeable. Appellant submits that such a reading is improper. Instead, each element (locating and utilizing) should be examined on its own merits. Appellant submits that the intended distinction between locating and utilizing steps is evidenced by the way the steps are set forth on separate lines and marked by “(a)” and “(b)” designations. Under a reasonable, “plain meaning” interpretation, “locating” means to “to determine...the place, site, or limits of” and “utilizing” means to “to make use of.” See www.m-w.com for terms “locating” and “utilizing.” Consequently, Appellants submit that these actions are very different and not synonymous so as to justify the Examiner’s interpretation.

Additionally, the Examiner inappropriately interprets Claim 1 to read as though locating and utilizing refers to (locating/utilizing) one or more **application program operations**, instead of referring to (locating/utilizing) **actual PCB’s** as recited in Claim 1. Doing so inappropriately changes the meaning of the claim. The terms “locating” and “utilizing” cannot be separated from the term “actual PCB” without improperly shifting the meaning of the claim. Locating and utilizing one or more application program operations is fundamentally different than locating and utilizing actual PCB’s.

By twisting of Claim 1 to ignore the object of the method steps locating and utilizing, namely an actual PCB, the Examiner’s interpretation is hindsight reconstruction, improper, and contrary to all tenets of claim interpretation. Because the arguments provided by the Examiner are directed towards improperly interpreted claims, Appellant submits that the Examiner has failed to establish a *prima facie* case of obviousness.

Under 35 U.S.C. §103 the Examiner has the initial burden of presenting a *prima facie* case of obviousness. *In re Rijckaert*, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish a *prima facie* case of obviousness, the combination of the prior art references must teach or suggest all the claim limitations. MPEP § 2142. In addition, “it is insufficient that the prior art disclosed the components of the patented device, either separately or used in other combinations; there must be some teaching, suggestion, or incentive to make the combination made by the inventor.” *Northern Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 934 (Fed. Cir. 1990). Arguendo, even if Claim 1 is interpreted correctly, Appellant submits that Claim 1 is patentable over Koeppen in view of Ahmad.

Koeppen in view of Ahmad fails to teach all elements

Appellant submits that Koeppen in view of Ahmad fails to suggest, teach, or disclose all of the elements of Claim 1. The Examiner argues that Koeppen discloses at least one IMS resource exclusive of predetermined knowledge pertaining to an IMS construct form. See Office Action 9/14/2005, p. 3. The Examiner further suggests that the “data structure” disclosed in Koeppen is equivalent to an IMS construct form as recited in Claim 1 of the present invention. Koeppen col. 3, lines 25-67. Even if Appellant accepts that the data structure described in Koeppen is the equivalent of an IMS construct form, Koeppen still fails to suggest, teach, or disclose the elements of Claim 1 as presented by the Examiner.

Koeppen discloses a method of reorganizing a fragmented IMS database. See Koeppen abstract. More specifically, as cited by the Examiner, Koeppen describes the creation of a header data structure as a step in reorganizing an IMS database. Koeppen col. 3, lines 25-67. The header data structure contains information about the size and key structure of the database that will be unloaded. This information is analogous to a map of the IMS file which is then used to determine where specific data should be written in the reorganized database. Koeppen col. 3, lines 25-35.

Although Koeppen may disclose at least one IMS resource, Koeppen fails to disclose “locating an actual PCB” or doing so “exclusive of predetermined knowledge pertaining to an IMS construct form.” Appellant finds no teaching or suggestion in Koeppen regarding the locating of a PCB. In fact, Koeppen is silent regarding PCBs.

Even if the necessary relationship to PCBs is ignored, Koeppen still fails to disclose the element, “exclusive of predetermined knowledge pertaining to an IMS construct form.” Koeppen col. 1, lines 5-10, col. 3, lines 26-67. This element requires that the actual PCB be located without additional information that an IMS construct form may provide.

Furthermore, the steps for creating a data structure as described in Koeppen are completely unrelated to the present invention which resolves compatibility issues between a utility program and IMS resources by locating PCBs without predetermined knowledge pertaining to an IMS construct form. The present invention does not claim a method for creating header data structures, nor is the process similar to the present invention as implied by the Examiner. See Office Action 9/14/2005, p.3 citing Koeppen col. 3, lines 26-67.

The Examiner further argues that Koeppen discloses “locating/utilizing and performing said one or more application program operations on said at least one IMS resource.” See Office Action 9/14/2005, p.3. The Examiner misconstrues the meaning of Claim 1 by superficially attacking the distinct elements of locating a PCB and utilizing a PCB of Claim 1 as though these elements are interchangeable. The claimed invention relates specifically to locating PCBs in relation to IMS and IMS resources. “All words in a claim must be considered in judging the patentability of that claim against the prior art.” In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). MPEP §2143.03. Appellant does not claim “locating” or “utilizing” one or more **application program operations** as the Examiner suggests, but claims “locating an actual PCB” and “utilizing said actual PCB”. See Office Action 9/14/2005, p. 3 and Claim 1. The terms and elements of the Claim can not be twisted and turned to completely change the meaning of the claims in order to recite prior art references that may make mention of some of these terms. Furthermore, Appellant does not claim simply performing one or more form independent application program operations as the Examiner suggests, but instead claims the utilization of the actual PCB to perform the application program operations. See Office Action 9/14/2005, p. 3 and Claim 1. These distinctions change the essential meaning of the claim and render the Examiner’s arguments improper. Although Koeppen may disclose performing one or more application program operations on at least one IMS resource, Koeppen does not disclose utilizing an actual PCB to perform the operations as recited in Claim 1. The Examiner argues

that Ahmad teaches the use of PCBs such that Koeppen in view of Ahmad renders the invention obvious.

PCBs are proprietary constructs that are closely related to both the IMS application and the IMS databases the IMS application will access. See PCB definition in Exhibit A of Appendix. PCBs enable an IMS application to interact with an IMS database. The claimed invention provides interoperability between two different IMS applications and a single IMS database without requiring any information about existing PCBs.

Appellant submits that Ahmad fails to suggest, teach, or disclose “locating an actual PCB” or “utilizing said actual PCB to perform one or more form independent application program operations” as recited in the claims of the present invention. See Claim 1. The Examiner avers that Ahmad discloses “that for an IMS system, PCBs, Data Base Descriptions (DBDs) and Program Specification Blocks (PSBs) are well known.” See Office Action 9/14/2005, p. 3. The Examiner further argues that it would have been obvious to one of ordinary skill in the art at the time the invention was made to “include the feature of having PCBs for the IMS database.” Id.

Appellant submits that the Examiner has again misinterpreted the claim. Appellant recognizes that PCBs are commonly used with IMS systems, however Appellant does not simply claim the inclusion of PCBs but claims “locating an actual PCB exclusive of predetermined knowledge pertaining to an IMS construct form, and utilizing the PCB to perform one or more form independent application program operations on at least one IMS resource.” See Claim 1. Appellant submits that “locating an actual PCB exclusive of predetermined knowledge pertaining to an IMS construct form” is not a trivial step within the realm of those of ordinary skill in the art without the teachings of the Appellant’s specification. Specifically, how such actual PCBs are located is taught in the specification on pages 13-18 and Figures 9-11

Ahmad teaches a method for direct access of remote data. Ahmad abstract. More specifically, Ahmad teaches adapting a data access client program on a local computer to access data stored on a remote computer. Id. As cited by the Examiner, Ahmad teaches that for files having the IMS format, the file attributes include PSBs, and that PSBs are composed of one or more PCBs. Ahmad col. 4, lines 40-52, col. 6, lines 13-23. However, Ahmad teaches that the accepted wisdom in the art is to generate the DBD and PSB by processes known respectively as

DBDGEN and PSBGEN. Ahmad col. 6, lines 26-30. Conversely, the present invention teaches the locating and utilization of previously generated PCBs so as to save time and money. See Specification p. 13, lines 3-22, p. 14, lines 1-22 and Figure 9. “Proceeding contrary to accepted wisdom in the art is evidence of non-obviousness.” MPEP § 2145(X)(D)(3); *In re Hedges*, 783 F.2d 1038, 228 USPQ 685 (Fed. Cir. 1986). As described in the specification, the requirement for regenerating PCBs is one of the very limitations in the prior art that the present invention overcomes. See specification p.4, lines 3-11. Therefore, Appellant submits that Ahmad teaches away from the present invention and provides further evidence of non-obviousness.

Furthermore, Ahmad teaches the use of PCBs but fails to teach locating an actual PCB or utilizing an actual PCB in the manner recited in Claim 1. Ahmad col. 6, lines 13-23, col. 4, lines 40-52, col. 2, lines 52-53. Therefore, Ahmad taken together with Koeppen fails to suggest, teach, or disclose all of the elements of Claim 1.

Additionally, Koeppen and Ahmad fail to teach or suggest a motivation to combine the references in the manner suggested by the Examiner. “It is insufficient that the prior art disclosed the components of the patented device, either separately or used in other combinations; there must be some teaching, suggestion, or incentive to make the combination made by the inventor.” *Northern Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 934 (Fed. Cir. 1990). Since Koeppen and/or Ahmad fail to teach each element of Claim 1, it is impossible for either Koeppen and/or Ahmad to teach or suggest a combination of these missing elements. Thus, the Examiner has failed to establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a). Consequently, Appellant respectfully submits that Claim 1 is patentable over the cited references and requests that the rejection of Claim 1 under 35 U.S.C. § 103(a) be withdrawn.

Furthermore, Appellant respectfully submits that independent Claim 1 is representative of the patentable subject matter of Claims 19, 20, and 38. Therefore, Appellant respectfully submits that Claims 19, 20, and 38 are also patentable over the cited references for the reasons stated above, and requests that the rejection of Claim 19, 20, and 38 under 35 U.S.C. § 103(a) be withdrawn.

DEPENDENT CLAIMS 2-15, 21-34, 39-44, and 48

Given that claims 2-15, 21-34, 39-44, and 48 depend from one of independent Claims 1, 19, 20, or 38, which are believed to be patentable as described above, Appellant respectfully submits that the rejection of Claims 2-15, 21-34, 39-44, and 48 under 35 U.S.C. § 103(a) is moot. Accordingly, Appellant requests that the rejection of dependent Claims 2-15, 21-34, 39-44, and 48 under 35 U.S.C. § 103(a) be duly withdrawn.

DEPENDENT CLAIMS 16-18, 35-37, and 45-47

Given that Claims 16-18, 35-37, and 45-47 depend from one of independent Claims 1, 19, 20, or 38, which are believed to be patentable as described above, Appellant respectfully submits that Claims 16-18, 35-37, and 45-47 are allowable without any amendments to the independent claims.

SUMMARY

In view of the foregoing, each of the claims on appeal has been improperly rejected because the Examiner has not properly established a *prima facie* case of obviousness for Claims 1-15, 19-34, 38-44, and 48.

Appellant submits that the foregoing arguments establish non-obviousness of the claims of the present application. Therefore, Appellant respectfully requests reversal of the Examiner's rejection under 35 U.S.C. § 103(a) and allowance of pending claims 1-48. Accordingly, Appellant submits that claims 1-48 are patentable.

Respectfully submitted,



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8. CLAIMS APPENDIX

The claims involved in the appeal, namely claims 1-38, are listed below.

1. A method for performing on a computer system one or more form independent application program operations on at least one Information Management System (IMS) resource comprising:

- (a) locating an actual Program Communication Block (PCB) associated with said at least one IMS resource exclusive of predetermined knowledge pertaining to an IMS construct form, and
- (b) utilizing said actual PCB to perform said one or more form independent application program operations on said at least one IMS resource.

2. The method of claim 1 wherein said IMS resource is a database.

3. The method of claim 2 wherein said database is of a type selected from the group consisting of Data Entry Databases (DEDB), Hierarchic Direct Access Method (HDAM) and Hierarchic Indexed Direct Access Method (HIDAM).

4. The method of claim 3 wherein said application program operations include unloading said database.

5. The method of claim 3 wherein said application program operations include loading said database.

6. The method of claim 1 wherein said IMS construct form depends from the choice of programming language used to generate a Program Specification Block (PSB).

7. The method of claim 6 wherein said IMS construct form depends from the order of PCBs associated with said PSB.

8. The method of claim 1 wherein said application program operations are invoked from an application program executing in an IMS region selected from the group consisting of Batch Message Processing (BMP), Data Language One (DL/I), Database Management Batch (DBB), Message Processing Program (MPP) and Interactive Fast Path (IFP).

9. The method of claim 8 wherein locating an actual PCB further comprises locating an Input/Output (I/O) PCB.

10. The method of claim 8 wherein locating an actual PCB further comprises locating a database PCB.

11. The method of claim 6 wherein said PSB is associated with a language selected from the group consisting of COBOL, Assembly Language, PL/I , PASCAL and C.

12. The method of claim 7 wherein said IMS construct form additionally depends from the quantity of PCBs associated with said PSB.

13. The method of claim 9 wherein utilizing said actual PCB comprises utilizing said I/O PCB to perform checkpoint processing.

14. The method of claim 1 wherein step (a) comprises the steps of:

- (a1) locating a first candidate PCB,
- (a2) determining if said first candidate PCB is said actual PCB, and
- (a3) if said first candidate PCB is not said actual PCB, utilizing said first candidate PCB as a pointer to locate said actual PCB.

15. The method of claim 14 wherein said determining step comprises verifying that a name field of said first candidate PCB consists of only printable characters.

16. The method of claim 14 wherein said locating step comprises the steps of:

- (a1.1) utilizing a register 13 to access a program save area,
- (a1.2) utilizing an High Save Area (HSA) pointer from said program save area to access a calling program's save area,
- (a1.3) utilizing a saved register 1 from said calling program's save area to access a parameter list, and

(a1.4) utilizing a parameter list entry from said parameter list to access said first candidate PCB.

17. The method of claim 16 wherein the steps of claim 14 further comprise:

(a4) comparing a NAME field of said actual PCB with the name of said IMS resource to determine if said actual PCB is associated with said IMS resource,

(a5) checking a high order bit of said parameter list entry if said actual PCB is not associated with said IMS resource, and

(a6) obtaining a second candidate PCB by utilizing a next sequential parameter list entry from said parameter list and repeating steps (a2) through (a6) substituting said second candidate PCB for said first candidate PCB if said high order bit is not “1”.

18. The method of claim 17 wherein step (a5) further comprises generating an error condition if said high order bit is “1”.

19. A method for performing an application program operation on at least one Information Management System (IMS) database comprising:

(a) ensuring the existence of IMS constructs representing said at least one IMS database without regard for construct form, and

(b) executing a construct form independent application program for performing said application program operation on said IMS database.

20. A computer system for performing one or more form independent application program operations on at least one Information Management System (IMS) resource comprising:

- (a) a computer,
- (b) computer program first instructions executing on said computer for locating an actual Program Communication Block (PCB) associated with said at least one IMS resource exclusive of predetermined knowledge pertaining to an IMS construct form, and
- (c) computer program second instructions executing on said computer for performing said one or more form independent application program operations on said at least one IMS resource utilizing said actual PCB.

21. The system of claim 20 wherein said IMS resource is a database.

22. The system of claim 21 wherein said database is of a Hierachic Direct Access Method (HDAM) type.

23. The system of claim 21 wherein said application program operations include unloading said database.

24. The system of claim 21 wherein said application program operations include loading said database.

25. The system of claim 20 wherein said IMS construct form depends from the choice of programming language used to generate a Program Specification Block (PSB).

26. The system of claim 25 wherein said IMS construct form depends from the order of PCBs associated with said PSB.

27. The system of claim 20 wherein said application program operations are invoked from an application program executing in an IMS Batch Message Processing (BMP) region.

28. The system of claim 27 wherein said computer program first instructions locate an Input/Output (I/O) PCB.

29. The system of claim 27 wherein said computer program first instructions locate a database PCB.

30. The system of claim 25 wherein said PSB is associated with COBOL.

31. The system of claim 26 wherein said IMS construct form additionally depends from the quantity of PCBs associated with said PSB.

32. The system of claim 28 wherein said computer program second instructions use said I/O PCB to perform message queue processing.

33. The system of claim 20 wherein said computer program first instructions perform a method for locating said actual PCB, said method comprising:

- (a1) locating a first candidate PCB,
- (a2) determining if said first candidate PCB is said actual PCB, and
- (a3) locating said actual PCB utilizing said first candidate PCB if said first candidate PCB is not said actual PCB.

34. The system of claim 33 wherein (a2) comprises verifying that a name field of said first candidate PCB consists of only printable characters.

35. The system of claim 33 wherein (a1) comprises:

- (a1.1) locating a program save area,
- (a1.2) locating a calling program's save area utilizing said program save area,
- (a1.3) locating a parameter list utilizing said calling program's save area, and
- (a1.4) locating said first candidate PCB utilizing said parameter list.

36. The system of claim 33 further comprising:

- (a4) determining if said actual PCB is associated with said IMS resource,
- (a5) checking for the existence of a second candidate PCB if said actual PCB is not associated with said IMS resource, and

(a6) repeating (a2) through (a6) substituting said second candidate PCB for said first candidate PCB if said second candidate PCB exists.

37. The system of claim 36 wherein (a5) further comprises generating an error condition if said second candidate PCB does not exist.

38. An article of manufacture for use in a computer system tangibly embodying a program of instructions executable by the computer system to perform method steps for performing one or more form independent application program operations on at least one Information Management System (IMS) resource, the method comprising the following steps:

(a) locating an actual Program Communication Block (PCB) associated with the at least one IMS resource exclusive of predetermined knowledge pertaining to an IMS construct form, and

(b) utilizing the actual PCB to perform the one or more form independent application program operations on the at least one IMS resource.

39. The article of manufacture of claim 38 wherein the IMS resource is a database.

40. The article of manufacture of claim 38 wherein the IMS construct form depends from a characteristic selected from the group consisting of Program Specification Block (PSB) programming language, PCB order, and PCB quantity.

41. The article of manufacture of claim 38 wherein step (a) comprises locating an Input/Output (I/O) PCB.

42. The article of manufacture of claim 41 wherein step (b) comprises utilizing the I/O PCB to perform checkpoint processing.

43. The article of manufacture of claim 38 wherein step (a) comprises the steps of:

- (a1) accessing a first candidate PCB,
- (a2) evaluating whether the first candidate PCB is the actual PCB, and
- (a3) utilizing information from the first candidate PCB to access the actual PCB if the first candidate PCB is not the actual PCB.

44. The article of manufacture of claim 43 wherein the evaluation step (a2) comprises determining if a name field of the first candidate PCB consists of only printable characters.

45. The article of manufacture of claim 43 wherein the accessing step (a1) comprises the steps of:

- (a1.1) utilizing a memory address from a register 13 to access a program save area,
- (a1.2) utilizing a memory address from the program save area to access a calling program's save area,
- (a1.3) utilizing a memory address from the calling program's save area to access a parameter list, and

(a1.4) utilizing a memory address from the parameter list to access the first candidate PCB.

46. The article of manufacture of claim 43 further comprising:

(a4) determining if the actual PCB is associated with the IMS resource,

(a5) checking for the existence of a second candidate PCB if the actual PCB is not associated with the IMS resource, and

(a6) repeating steps (a2) through (a6) with substitution of the second candidate PCB for the first candidate PCB if the second candidate PCB exists.

47. The article of manufacture of claim 46 wherein step (a5) further comprises generating an error condition if the second candidate PCB does not exist.

48. The article of manufacture of claim 45 further comprising:

(a1.5) determining that the language environment is PASCAL if a parameter list entry in the first entry location of the parameter list is zero.

9. EVIDENCE APPENDIX

Exhibit A is a website page submitted in support of the Office Action Mailed September 7, 2004. The Exhibit A includes a definition of the term PCB used in the claims. The Online File Wrapper for this application, serial no. 09/778,236, indicates that this evidence was entered into the record on September 7, 2004. A copy of this Exhibit A is included with this brief for convenience.

10. RELATED PROCEEDINGS APPENDIX



There is no material to be included in the Related Proceedings Appendix.



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the size of the viewport. When the presentation space is equal to the viewport size, all the data in the presentation space is displayed. When the presentation space is larger than the viewport, the user must move the scrolling window within the presentation space to display the data within the viewport. See also *viewport*.

preset destination mode

An optional mode of terminal operation that allows the destination of terminal input to be fixed as a specific transaction code or logical terminal. It is activated by the /SET command and reset by the /RESET command, the /STOP command, ETO user signoff, static terminal logoff, and an IMS restart.

primary data set group

In a database, the first or only data set group defined. The root segment type always resides in the primary data set group. See also *secondary data set group*.

primary request

In an MSC network, a message entered into a terminal before it is processed. See also *secondary request and response*.

primary session

The session between a class-1 terminal and the active IMS.

primary structure

A coupling facility list structure that contains shared queues or shared resources.

private buffer pool

An area of local storage, used for VSO DEDB data, that can provide lookaside capability for shared VSO areas.

processing intent

An application program attribute, defined in the PSB, that specifies the program's database access privileges such as, insert, delete, and replace.

processing limit

A transaction attribute that defines how many messages the application program is allowed to process during one program execution.

program communication block (PCB)

An IMS control block that describes an application program's interface to and view of an IMS database or, additionally for message processing and batch message processing programs, to the source and destinations of messages. PCBs are defined by the user during PSB generation. See also *database program communication block (DB PCB)* and *telecommunication-program program communication block (TP PCB)*.

program isolation (PI)

An IMS facility that separates all the activity of an application program from any other active application program until that application program indicates, via a synchronization point, that the data it has modified or created is consistent and complete.

program isolation (PI) lock manager

The facility that was formerly known as PI enqueue-dequeue. The PI lock manager is used for local locking in systems for which no IRLM has been defined. Otherwise, the IRLM is used for all lock management, including local.